LISTING OF THE CLAIMS

1. (Previously Amended) A coolant union having a primary seal assembly and a tubular carrier member axially movable within a union housing having a wall defining a cylindrical inner chamber and having an annular groove within the union housing, with the carrier member adapted to receive fluid coolant and structurally arranged to direct the coolant through the union to an associated tubular rotor, with the rotor having a sealing member thereon and the axially movable tubular carrier member having a sealing member thereon, with the carrier member axially movable between a pressurized position wherein the sealing members are in contact and an unpressurized position wherein said sealing members are spaced apart from each other, with the coolant union having a secondary seal assembly including in combination:

a U-shaped seal member positioned in the annular groove within the housing and structurally arranged to provide a seal between the carrier member and the cylindrical inner chamber of the housing when the coolant union is in the operating pressurized position; and

wherein said U-shaped seal member includes a chamfered portion structurally arranged to cooperate with a back-up ring member to provide an unfilled volume therebetween defined by said chamfered portion to create a micro-popoff to prevent dry-running of said primary seal assembly when the union is operating in the unpressurized position.

2. (Previously Amended) The coolant union in accordance with claim 1, wherein said back-up ring is triangular shaped and includes a surface which is structurally arranged to cooperate with said portion on said U-shaped seal member.

3. (Cancelled)

4. (Original) The coolant union in accordance with claim 1, wherein the sealing member mounted to the carrier member is chamfered.

5. (Original). The coolant union in accordance with claim 4, wherein the width of said chamfered sealing surface provides a sealing surface of approximately one-half the width of said other sealing surface.

6. (Previously Amended) A coolant union having a tubular carrier member axially movable within a union housing having an inner wall defining a cylindrical inner chamber, with the carrier member adapted to receive fluid coolant and structurally arranged to direct the coolant through the union to an associated tubular rotor, with the coolant union having a seal assembly including in combination:

a first seal member presenting an annular sealing surface mounted to and rotatable with said rotor;

a non-rotating second seal member presenting an annular sealing surface mounted to the tubular carrier member for axial movement within the housing between an unpressurized position wherein said second seal member is spaced apart from said first seal member and a pressurized position wherein said first and said second seal members are structurally arranged to provide a seal between the annular sealing surfaces of said rotating and said non-rotating seal members; and

wherein at least one of the annular sealing surfaces presented by said rotating seal member and said non-rotating seal member is such that the width of one of said annular sealing surfaces is

less than the width of said other annular sealing surface to provide a narrowed contact area therebetween to reduce the operating temperature of the coolant union during operation.

7. (Previously Amended). The coolant union in accordance with claim 6, wherein at least one of said sealing surfaces is chamfered to provide said narrowed contact area.

8. (Canceled)

9. (Original) The coolant union in accordance with claim 6, wherein said second seal member is chamfered and said first seal member is unchamfered.

10. (Previously Amended) The coolant union in accordance with claim 6, wherein said coolant union further includes a secondary seal assembly for preventing coolant leakage through a gap defined between the carrier member and the inner wall of the union housing.

11. (Currently Amended) The fluid coolant union in accordance with claim 10, wherein said secondary seal assembly includes a U-shaped annular seal member in an annular groove positioned in the housing wall, with said U-shaped seal member having a chamfered surface being structurally arranged to engage a back-up ring positioned adjacent said gap to provide an unfilled volume and the relative displacement of said [[floating]] seal assembly to thereby create separation between said rotating and said non-rotating seal members of the seal assembly from each other when the first and second seal members are in the unpressurized position.

12. (Previously Amended) The coolant union in accordance with claim 11, wherein said back-up ring is triangular shaped and includes a surface which is structurally arranged to cooperate with said chamfered surface on said U-shaped seal member.

13. (Previously Presented) A coolant union having a tubular carrier member axially movable within a union housing having a wall defining a cylindrical inner chamber, with the carrier member adapted to receive fluid coolant and structurally arranged to direct the coolant through the union to an associated tubular rotor, with the coolant union having a seal assembly including in combination:

a first seal member presenting an annular sealing surface mounted to and rotatable with said rotor;

a non-rotating second seal member presenting an annular sealing surface mounted to the tubular carrier member for axial movement within the housing between an unpressurized condition wherein said second seal member is spaced apart from said first seal member and a pressurized condition wherein said first and said second seal members are structurally arranged to provide a seal between the annular sealing surfaces of said rotating and said non-rotating seal members; and

wherein at least one of the annular sealing surfaces presented by said rotating seal member and said non-rotating seal member is comprised of a porous material structure which contains a lubricating medium to provide self-lubrication of the seal faces to reduce the temperature therebetween during operation.

14. (Previously Presented) The coolant union in accordance with claim 13 wherein the lubricating medium is the fluid coolant.

15. (Previously Presented) The coolant union in accordance with claim 13 or 14, wherein each of said first and said second seal members have different porosity values for absorbing the

fluid coolant to provide self-lubrication and resistance to dry running conditions of the coolant union.

16. (Previously Presented) The coolant union in accordance with claim 13, wherein said coolant union further includes a secondary seal assembly for preventing coolant leakage forwardly through the gap between the carrier member and the inner wall of the union housing.

17. (Previously Presented) The fluid coolant union in accordance with claim 16, wherein said secondary seal assembly includes a U-shaped annular seal member positioned in an annular groove positioned in the housing wall defining a cylindrical chamber, with said U-shaped seal member having a chamfered portion substantially engageable with the gap between the carrier member and the inner wall of the union housing, with said chamfered portion of said U-shaped annular seal member being structurally arranged to engage a back-up ring positioned adjacent said gap to provide an unfilled volume and relative displacement of the floating seal assembly to thereby create the separation between said rotating and said non-rotating seal members of the seal assembly from each other when the first and second seal members are in the unpressurized condition.

18. (Previously Presented) The coolant union in accordance with claim 17, wherein said back-up ring is triangular shaped and includes a surface which is structurally arranged to cooperate with said chamfered portion of said U-shaped seal member.

19. (Previously Presented) The coolant union of claim 13, wherein said porous material structure is a silicon carbide based material.